IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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| Application of: | ) | METHOD OF MELTING MATERIAL |
| | ) | BETWEEN TELESCOPINGLY |
| JOSEPH SIRGEDAS | ) | ENGAGED ELEMENTS |
| | ) | |
| Ser. No.: 09/722,775 | ) | Examiner: L. Edmondson |
| | ) | |
| Filed: 11/27/00 | ) | Art Unit: 1725 |

# APPELLANT'S BRIEF

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Sir:

## Real Party in Interest

The real party in interest is the Appellant, Joseph Sirgedas.

## Related Appeals and Interferences

There are no other appeals or interferences, known to Appellant or Appellant's legal representatives, which will directly affect, be directly affected by, or have a bearing on, the Board's decision in this appeal.

## Status of Claims

Claims 1-21 are currently pending in the application. Claim 2 stands rejected under 35 USC §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the invention. Claims 1-3, 5, 7, 9-11, 13, 15-17 and 19-21



37 CFR 1.8
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Terri Craine

stand rejected under 35 USC §102 as allegedly anticipated by UK Patent Application GB 2092692A (hereinafter "Overy"). Claims 6, 8, 14 and 18 stand rejected under 35 USC §103 as obvious over Overy in view of UK Patent Application GB 2126298A, to Frederick (hereinafter "Frederick"). Claims 4 and 12 stand objected to as being dependent upon a rejected base claim but are indicated to be allowable subject to their being rewritten in independent form.

Appellant hereby appeals the July 8, 2003 Final rejection of each of claims 1-3, 5-11 and 13-21.

## Status of Amendments

No amendment was filed after the July 8, 2003 Final Office Action.

## Summary of Invention

The invention is directed to a method of forming a meltable material 10 at a joint between telescopingly engaged male and female elements 12, 14, respectively (See the generic showing in Fig. 1 and Appellant's specification, pg. 7, lines 12-20).

As seen more specifically in Figs. 2 and 3, a male element 16 is directed into a female element 18 so that the male and female elements 16, 18 are telescopingly engaged, as shown in Fig. 3 (Appellant's specification pg. 7, lines 21-23, through pg. 8, line 3). With the male and female elements 16, 18 telescopingly engaged as in Fig. 3, a radially inwardly facing joint surface 20 on the female element 18 surrounds a radially outwardly facing surface 22 on the male element 16 (Appellant's specification pg. 7, line 21, through pg. 8, line 3).

A ring of meltable material 24 surrounds one of the male and female elements 16, 18. In Figs. 2 and 3, the ring of meltable material 24 surrounds the male element 16 and initially is placed at a first location, as shown in Fig. 2, spaced from the joint at which the surfaces 20, 22 overlap (Appellant's specification pg. 8, line 11, through line 17).

The male and female elements 16, 18 are heated at the joint to a temperature at which the meltable material 10 melts (Appellant's specification pg. 8, lines 19 and 20).

The ring of meltable material 24 is slid guidingly against the male element 16 from the first location to a second location of Fig. 2 at which no appreciable portion of the meltable material 10 resides between the radially facing surfaces 20, 22 of the female and male elements 18, 16, respectively (Appellant's specification pg. 8, line 13, through line 23).

The ring of meltable material 24 can be slid to the second location either before heating (Appellant's specification pg. 8, lines 19-23) or after heating (Appellant's specification pg. 9, lines 20-21).

With the ring of meltable material 24 at the second location and the male and female elements 16, 18 at a temperature at which the meltable material 10 melts, the meltable material 10 is caused to flow between the male and female joint surfaces 22, 20, respectively (Appellant's specification pg. 8, line 23, through pg. 9, line 2).

Thereafter, the male and female elements 16, 18 at the joint are cooled to solidify the meltable material between the male and female joint surfaces 22, 20.

The ring of meltable material 24 can be placed around the male element 16 either before or after the male and female elements 16, 18 are telescopingly engaged (see Appellant's specification pg. 8, lines 15-18 for the former, and Figs. 9-11 and Appellant's

specification pg. 9, line 22, through pg. 10, line 4, for the latter). In the latter situation, the ring of meltable material 24 is placed around one of the male and female elements 16, 18 by bending a piece of meltable material 10 around one of the male and female elements 16, 18.

The ring of meltable material 24 may extend continuously through 360° (see Fig. 5 and Appellant's specification pg. 9, lines 3 and 4).

Alternatively, the ring of meltable material can be made with spaced end 36, 38 (see Fig. 5 and Appellant's specification pg. 9, lines 3-9).

In one form, the meltable material 24 is solder used to join pipe or pipe fittings (see Figs. 12-14 and Appellant's specification pg. 10, lines 5-10, and pg. 11, lines 1 and 2).

## Issues

Issue No. 1

Whether claim 2 complies with the requirements of 35 USC §112, second paragraph.

Issue No. 2

Whether claims 1-3, 5, 7, 9-11, 13, 15-17 and 19-21 are anticipated by Overy.

Issue No. 3

Whether claims 6, 8, 14 and 18 are obvious over Overy in view of Frederick.

## Grouping of Claims

The claims of each of the above groups do not stand or fall together.

## Argument

Issue No. 1 (Claim 2)

Claim 2 recites that the male and female elements are heated at the joint to a temperature at which the meltable material melts before the ring of meltable material is moved from the first location to the second location. Claim 1 is silent as to the sequence of a) the heating at the joint and b) the movement of the ring of meltable material from the first location to the second location.

The Examiner states that claim 2 is inconsistent with claim 1 and requires that the material melts at the first location before being moved to the second location (See ¶1 on page 2 of the July 8, 2003 Final Action). However, claim 2 does not so state. Claim 2 recites that the male and female elements are heated "at the joint" to a temperature at which the meltable material melts with the ring at the first location. Thereafter, by moving the ring to the second location, the meltable material is heated to a temperature at which it can melt at the second location. Claim 1 is broad enough to cover the claim 2 steps as well as a process including heating to the melting temperature only after the ring is moved from the first location to the second location.

Since there is no inconsistency between the language in claims 1 and 2, it is respectfully submitted that the Examiner's rejection is improper.

Issue No. 2 (Claims 1-3, 5, 7, 9-11, 13, 15-17 and 19-21)

Claim 1

Claim 1 is directed to a method of forming a meltable material at a joint between telescopingly engaged male and female elements. The male element is directed into the female element so that the male and female elements are telescopingly engaged and a radially facing joint surface on the female element surrounds a radially facing joint surface on the male element. With the male and female elements telescopingly engaged, a ring of the meltable material is placed around one of the male and female elements at a first location. The ring of meltable material is then guidingly directed against the one of the male and female elements from the first location to a second location **at which no appreciable portion of the meltable material resides between radially facing portions of the male element and the female element**. The male and female elements at the joint are heated to a temperature at which the meltable material melts. With the ring of meltable material at the second location and the male and female elements at the joint at the temperature at which the meltable material melts, the meltable material is caused to flow between the male and female joint surfaces. Thereafter, the male and female elements are cooled at the joint to solidify the meltable material between the male and female joint surfaces.

As noted above, with the ring of meltable material at the second location "no appreciable portion of the meltable material resides between radially facing portions of the male element and the female element". The Examiner states in her Final Action that "the ring [in Overy] is not placed fully within the female element and abuts the free edge (5) of

the female element and thereby [sic] placed at a location at which no appreciable portion of the meltable material resides between radially facing portions of the members (figure 2)".

It is respectfully submitted that the fact that Overy's ring is not placed "fully" within the female element does not mean that there is "no appreciable portion" of the material therewithin. Overy describes that the split ring 4 is a "close fitting silver solder split ring" (Overy specification pg. 1, line 86). Overy further states that the split ring "is placed around the inserted tube 1 to lie in the funnel-shaped entry of the external part of the bush 5" (Overy specification pg. 1, lines 86-89 (our emphasis)).

Overy further states on the cover page, in the second column, that the method involves the step of "placing a split ring of solder 4 around the inserted tube to lie in the funnel-shaped entry of the external bush" (our emphasis).

Overy is unequivocal in describing that the ring of meltable material lies "**in**" the funnel-shaped entry, as a result of which the limitations of claim 1 are not met.

With the Appellant's claimed method, there is no need to define any type of receptacle between the facing male and female joint surfaces that is complementary to the ring of meltable material, as contemplated by Overy. Appellant's inventive structure offers a distinct advantage. For example, a plumber can purchase conventional, over the counter pipe, and fittings therefor, and use a meltable material in a ring form with a conventional circular cross-sectional configuration, to secure telescoped connections between the pipe and fittings. By reason of the circular cross-sectional configuration, the ring of meltable material would abut the edge at the female opening on the joint and would not, before melting, move to between the oppositely facing surfaces on the male and female portions.

Once the region is heated, the solder at the connection flows by capillary action to between the overlapping male and female surfaces.

Thus, Overy does not anticipate claim 1. Nor would claim 1 be obvious from Overy. Overy's focus is to create a complementary receptacle for a solder ring 4. Overy does not recognize that a complementary receptacle is not required Appellant's claimed invention would be obvious from Overy only in hindsight and using Applicant's invention as a template.

Claim 2

Claim 2 characterizes the male and female elements as heated at the joint to a temperature at which the meltable material melts before the ring of meltable material is moved from the first location to the second location. It appears that Overy's disclosure is directed to heating only after the ring 4 is put in place in the receptacle.

Claim 3

Claim 3 characterizes the meltable material as placed around the male element at the first location. While Overy appears to meet the limitations of claim 3, Overy does not teach or suggest the limitations of claim 1, from which claim 3 depends.

Claim 5

Claim 5 characterizes the step of placing a ring of the meltable material around one of the male and female elements as directing the one of the male and female elements

through a preformed ring of the meltable material. Overy's disclosure is silent with respect to how the ring 4 is initially placed around the male element therein.

Claim 7

Claim 7 characterizes the ring of meltable material as a formed piece of wire with spaced ends. While Overy meets the limitations of claim 7, Overy does not teach or suggest the limitations of claim 1, from which claim 7 depends.

Claim 9

Claim 9 characterizes the meltable material as solder. While Overy meets the limitations of claim 9, Overy does not teach or suggest the limitations of claim 1, from which claim 9 depends.

Claim 10

Claim 10 characterizes the male and female elements as pipe, or pipe fittings. While Overy meets the limitations of claim 10, Overy does not teach or suggest the limitations of claim 1, from which claim 10 depends.

Claim 11

Claim 11 is similar in scope to claim 1 and characterizes the female element as having a free edge. The step of sliding the meltable material is characterized as sliding the meltable material from the first location closer to the free edge of the female element to a second location. At the second location, again, "no appreciable portion of the meltable

material resides between radially facing portions of the male element and the female element".

The arguments advanced relative to claim 1, and as to how Overy does not teach or anticipate the method therein, apply equally to claim 11.

Claim 13

Claim 13 characterizes the step of placing a ring of the meltable material around one of the male and female elements as directing the one of the male and female elements through a pre-formed ring of the meltable material. Overy is silent with respect to this limitation.

Claim 15

Claim 15 characterizes the ring of meltable material as a formed piece of wire with spaced ends. While Overy meets the limitations of claim 15, Overy does not teach or suggest the limitations of claim 11, from which claim 15 depends.

Claim 21

Claim 21 characterizes the ring, in the second position, as directly abutting to the free edge of the female element. It is unclear as to where the Overy ring abuts. It is clear only that the ring resides in a receptacle between radially facing surfaces on male and female elements.

Claim 16

Claim 16 is similar to claims 1 and 11 and is differentiated by reason of specifically characterizing the ring of meltable material as being at a first location on one of the male and female elements before the male and female elements are directed, one within the other. Thereafter, the ring of meltable material is guided to the second location. Again, "no appreciable portion of the meltable material resides between radially facing portions of the male element and the female element" with the ring of meltable material at the second location.

As noted above with respect to claims 1 and 11, Overy does not teach or suggest the situation of the meltable material at a corresponding second location.

Claim 17

Claim 17 recites the step of placing the ring of meltable material at a first location spaced from the female element as the male and female joint surfaces are heated and, after heating the male and female joint surfaces to a temperature at which the meltable material melts, sliding the ring of meltable material from the first location to a second location at which the melted material can flow between the male and female joint surfaces. It appears that Overy contemplates heating his structure only with the ring at a second location between the male and female surfaces.

Claim 19

Claim 19 characterizes the ring of meltable material as a formed piece of wire with spaced ends. While Overy meets the limitations of claim 19, Overy does not teach or suggest the steps of claim 16, from which claim 19 depends.

Claim 20

Claim 20 characterizes the male and female elements as each comprising one of a piece of pipe and a pipe fitting. While Overy meets the limitations of claim 20, Overy does not teach or suggest the steps of claim 16, from which claim 20 depends.

Issue No. 3 (Claims 6 and 8, 14 and 18)

Claims 6 and 8 dependent from claim 1, with claim 14 depending from claim 11 and claim 18 depending from claim 16. All claims 6, 8, 14 and 18 include the limitation that the ring of meltable material extends continuously through 360°. While Frederick discloses a continuous ring, the ring is not described to cooperate with elements as recited in the independent claims from which claims 6, 8, 14 and 18 depend.

Conclusion

Overy does not teach or suggest, *inter alia*, a meltable ring that can be placed at a location, preparatory to melting, wherein no appreciable portion of the meltable material resides between radially facing portions of male and female elements between which the

meltable material is caused to be flowed and solidified. Accordingly, it is respectfully requested that the Examiner's rejection of claims 1-3, 5-11 and 13-21 be reversed.

Respectfully submitted,

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## APPENDIX

1. A method of forming a meltable material at a joint between telescopingly engaged male and female elements, said method comprising the steps of:

directing the male element into the female element so that the male and female elements are telescopingly engaged and a radially facing joint surface on the female element surrounds a radially facing joint surface on the male element;

with the male and female elements telescopingly engaged, placing a ring of the meltable material around one of the male and female elements at a first location;

sliding the ring of meltable material guidingly directly against the one of the male and female elements from the first location to a second location at which no appreciable portion of the meltable material resides between radially facing portions of the male element and the female element;

heating the male and female elements at the joint to a temperature at which the meltable material melts;

with the ring of meltable material at the second location and the male and female elements at the joint at a temperature at which the meltable material melts, causing the meltable material to flow between the male and female joint surfaces; and

cooling the male and female elements at the joint to solidify the meltable material between the male and female joint surfaces.

2. The method of forming a meltable material at a joint between telescopingly engaged male and female elements according to claim 1 wherein the male and female elements are heated at the joint to a temperature at which the meltable material melts before the ring of meltable material is moved from the first location to the second location.

3. A method of forming a meltable material at a joint between telescopingly engaged male and female elements according to claim 1 wherein the meltable material is placed around the male element at the first location.

4. The method of forming a meltable material at a joint between telescopingly engaged male and female elements according to claim 1 wherein the step of placing a ring of the meltable material around one of the male and female elements comprises bending a piece of the meltable material around the one of the male and female elements.

5. The method of forming a meltable material at a joint between telescopingly engaged male and female elements according to claim 1 wherein the step of placing a ring of the meltable material around one of the male and female elements comprises directing the one of the male and female elements through a preformed ring of the meltable material.

6. The method of forming a meltable material at a joint between telescopingly engaged male and female elements according to claim 1 wherein the ring of meltable material extends continuously through 360°.

7. The method of forming a meltable material at a joint between telescopingly engaged male and female elements according to claim 1 wherein the ring of meltable material comprises a formed piece of wire with spaced ends.

8. The method of forming a meltable material at a joint between telescopingly engaged male and female elements according to claim 1 wherein the ring of meltable material extends through at least 330°.

9. The method of forming a meltable material at a joint between telescopingly engaged male and female elements according to claim 1 wherein the meltable material comprises solder.

10. The method of forming a meltable material at a joint between telescopingly engaged male and female elements according to claim 9 wherein the male and female elements each comprise one of a piece of pipe and a pipe fitting.

11. A method of forming a meltable material at a joint between telescopingly engaged male and female elements, the female element having a free edge, said method comprising the steps of:

directing the male element into the female element so that the male and female elements are telescopingly engaged and a radially facing joint surface on the female element surrounds a radially facing joint surface on the male element;

with the male and female elements telescopingly engaged, placing a ring of the meltable material around the male element at a first location spaced from the free edge of the female element,

sliding the meltable material guidingly directly against the male element from the first location closer to the free edge of the female element to a second location at which no appreciable portion of the meltable material resides between radially facing portions of the male element and the female element;

heating the male and female elements at the joint to a temperature at which the meltable material melts;

with the meltable material at the second location, causing the melted meltable material to flow between the male and female elements; and

cooling the male and female elements at the joint to solidify the meltable material between the male and female joint surfaces.

12. The method of forming a meltable material at a joint between telescopingly engaged male and female elements according to claim 11 wherein the step of placing a ring of the meltable material around one of the male and female elements comprises bending a piece of the meltable material around the one of the male and female elements.

13. The method of forming a meltable material at a joint between telescopingly engaged male and female elements according to claim 11 wherein the step of placing a ring of the meltable material around one of the male and female elements comprises directing the one of the male and female elements through a preformed ring of the meltable material.

14. The method of forming a meltable material at a joint between telescopingly engaged male and female elements according to claim 11 wherein the ring of meltable material extends continuously through 360°.

15. The method of forming a meltable material at a joint between telescopingly engaged male and female elements according to claim 11 wherein the ring of meltable material comprises a formed piece of wire with spaced ends.

16. A method of making a connection between male and female elements, said method comprising the steps of:

directing the male element into the female element so that the male and female elements are telescopingly engaged and a radially facing joint surface on the female element surrounds a radially facing joint surface on the male element;

providing a ring of meltable material;

with the male and female elements telescopingly engaged, directing one of the male and female elements through the ring of meltable material to a first location on the one of the male and female elements;

after directing the one of the male and female elements through the ring of meltable material, directing the male element into the female element so that the female joint surface surrounds the male joint surface;

with the male element in the female element, sliding the ring of the meltable material guidingly directly against the one of the male and female elements to a second location at which no appreciable portion of the meltable material resides between radially facing portions of the male element and the female element

heating the male and female elements at the joint to a temperature at which the meltable material and thereby causing the melted meltable material at the second location to flow between the male and female elements; and

cooling the male and female joint surfaces to solidify the meltable material between the male and female joint surfaces.

17. The method of making a connection between male and female elements according to claim 16 further comprising the steps of placing the ring of meltable material at a first location spaced from the female element as the male and female joint surfaces are heated and after heating the male and female joint surfaces to a temperature at which the meltable material melts sliding the ring of meltable material from the first location to a second location at which melted meltable material can flow between the male and female joint surfaces.

18. The method of making a connection between male and female elements according to claim 16 wherein the ring of meltable material extends continuously through 360°.

19. The method of making a connection between male and female elements according to claim 16 wherein the ring of meltable material comprises a formed piece of wire with spaced ends.

20. The method of making a connection between male and female elements according to claim 16 wherein the male and female elements each comprise one of a piece of pipe and a pipe fitting.

21. The method of making a connection between male and female elements according to claim 11 wherein in the second position, the ring of meltable material directly abuts to the free edge of the female element.